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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,180	08/18/2005	Don W. Cochran	PSSZ 200074US	5253
Richard J Minnich <sup>7590</sup> 06/17/2008 Fay Sharpe Fagan Minnich & McKee 7th Floor 1100 Superior Avenue Cleveland, OH 44114-2579				
EXAMINER				
LUU, THANH X				
ART UNIT		PAPER NUMBER		
2878				
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06/17/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/519,180

**Applicant(s)**

COCHRAN ET AL.

**Examiner**

Thanh X. Luu

**Art Unit**

2878

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 7, 9 and 11-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 11-14, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 4, 9, 15 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is in response to amendments and remarks filed May 21, 2008.

Claims 1-4, 7, 9 and 11-18 are currently pending.

#### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the diffusers being front lit; and an inverse engineered illumination pattern must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Objections***

2. Claim 12 is objected to because of the following informalities: "the object under test" lacks proper antecedent basis. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 11 is dependent for a cancelled claim. Since the scope of the claim is unclear, the claim is not examined on its merits.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Chiang (U.S. Patent 6,191,850).
8. Regarding claims 1-3, 12 and 13, Chiang discloses (Figs.) a system for providing patterned illumination fields within an automated visual inspection system, the system comprising: a patterned illuminator comprising light emitting diodes (col. 1, lines 17-18) and at least one masking or blocking element (grid pattern 22) configured to provide spatially-adjacent regions of uniform, diffuse lighting and lighting voids (shadows) to produce engineered illumination fields; a receiver aperture (54) positioned to receive light generated by the patterned illuminator which has scattered or reflected off a part under inspection (44); and a transport mechanism (col. 5, line 66 - col. 6, line 3) used to automatically convey and position parts under inspection within the engineered illumination fields generated by the patterned illuminator.

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Chiang also discloses (Fig. 3) annular regions; a 2D camera (50); and a processor means (57) as claimed.

9. Claims 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Cochran et al. (U.S. Patent 4,882,498), hereinafter, Cochran '498.

10. Regarding claim 16, Cochran '498 disclose (Figs.) a method and a system for providing illuminated fields within an automated visual inspection system, comprising: a patterned illuminator (10) configured to provide spatially-adjacent regions of uniform, diffuse lighting and lighting voids (areas where LEDs are missing) to produce engineered illumination fields; a receiver aperture (lens of a camera 36) positioned to receive light generated by the patterned illuminator which has scattered or reflected off a part under inspection (20); and a transport mechanism (conveyor) used to automatically convey and position parts under inspection within the engineered illumination fields generated by the patterned illuminator. Cochran '498 also disclose (Figs.) the pattern created is a series of rings (Fig. 2) having different dimensions as claimed.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiang in view of Jusoh et al. (U.S. Patent 6,207,946).

13. Regarding claims 7 and 14, Chiang discloses the claimed invention as set forth above. Chiang does not disclose pulsing or turning on/off the light source as claimed. However, Jusoh et al. teach (col. 7, lines 20-35) a similar system having strobing LEDs. It would have been

obvious to one of ordinary skill in the art at the time the invention was made to provide strobing LEDs in the apparatus and method of Chiang to improve inspection throughput as known.

***Response to Arguments***

14. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

15. Applicant's arguments filed May 21, 2008 have been fully considered but they are not persuasive.

16. With regard to claims 16 and 17, Applicant fails to advance any argument. Thus, it is not found to be persuasive.

17. With regard to the drawings, Examiner has not objected to the drawings because there is no support. The drawings are objected to because the claimed subject matter is not shown. It is unclear how light sources 90 and 110 show the diffusers being front lit by the LEDs as claimed. Light source 110 has its own masking/blocking element. Further, it is unclear where Figure 5 shows an "inverse engineered illumination pattern." It is unclear how citations to the written description would overcome a drawing objection. Clearly, the claimed subject matter is not shown.

***Allowable Subject Matter***

18. Claims 4, 9, 15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is 571-272-2441. The examiner can normally be reached on M-F 6:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thanh X Luu/  
Primary Examiner, Art Unit 2878